In The Drawings;

A Replacement Sheet attached. The attached sheet includes changes to Fig.2. This sheet, which includes Fig. 2 and Fig. 3, replaces the original sheet including Fig. 2 and Fig. 3. A marked copy of the amended Fig. 2 is also enclosed herewith to show the changes made.

In the amended Fig. 2, the text has been changed from "Starting to encode an inter frame coded image" and "End of encoding an inter frame coded image" to "Starting to decode an inter frame coded image" and "End of decoding an inter frame coded image", respectively.

REMARKS

Status of the Application

Claims 1-4 and 7-10 are pending.

Claims 5-6 have been withdrawn.

Claims 1, 8 and 9 are objected for informalities.

Claims 1-4 and 7-10 are rejected under 35 USC 101.

Claim 8 is rejected under 35 USC 112, second paragraph.

Claims 1, 2, 7, 8 and 10 are rejected under 35 USC 102 as being anticipated by Srinivasan (US 2003/0113026).

Claims 3 and 4 are rejected under 35 USC 103 as being unpatentable over Srinivasan in view of Hatano (US 6,792,046).

Claim 9 is rejected under 35 USC 103 as being unpatentable over Srinivasan in view of Hagai (US 2004/0146105).

In this response, Applicant has amended claims 1-4 and 7-10, the Abstract and Fig. 2.

No new matter has been introduced by these amendments. Reconsideration of the pending claims 1-4 and 7-10 in light of the foregoing amendments and the following remarks is respectfully requested.

Abstract

Applicant amended the Abstract to meet the objection.

Withdrawal of the objection is requested.

Drawings

Fig. 2 is amended according to the original specification so as to meet the objection.

Withdrawal of the objection is requested.

Claim Objections for Claims 1, 8 and 9

Claims 1, 8 and 9 are objected for informalities.

Applicant has amended claims 1, 8 and 9 to correct the informalities.

Withdrawal of the objection is requested.

Claim Rejection(s) Under 35 U.S.C. §101 for Claim(s) 1-4 and 7-10

To overcome the 101 rejection, Applicant has amended the preamble of the claims as "An encoding method for skipped macroblocks in a video image of a video processing system".

In view of encoding method of video image is implemented by a video processing system, for example, the video processing system can be a particular device used to process video image in a digital television, new generation mobile communications, broadband commutations network and family consumer electronic in the specification of the present invention, a series of steps in claim(s) 1-4 and 7-10 are performed by the video processing system. Therefore, the

method recited in claims 1-4 and 7-10 is tied to a machine and, thus, complies with the requirement of 35 USC 101.

Withdrawal of the rejection is requested.

Claim Rejection under 35 U.S.C. 112, Second Paragraph, for Claim 8

According to page 8, line 4-14 in the specification of the present invention, in claim 8, the phrase "its" refers to "skip macroblock type".

Please replace the phrase "its" with "skip macroblock type" in claim 8.

Withdrawal of the rejection is requested.

Claim Rejection(s) Under 35 U.S.C. §102(e) for Claim(s) 1-2, 7-8 and 10

1 · Independent Claim 1

This rejection is respectfully traversed on the grounds that Srinivasan et al (US 2003/0113026) fails to disclose or suggest each and every limitation as recited in claim 1. The specific reasons are as following.

In one aspect, Srinivasan didn't disclose "*selecting the coding mode for a macroblock type in the current image according to the number of skipped macroblocks, if it is a run_length coding, then proceeding to step 3; if it is a joint coding of the number of skipped macroblocks and the macroblock type, then proceeding to step 4*".

Although Srinivasan discloses different coding modes, for example, four coding modes in the first implement, and seven coding modes in the second implement, and further discloses

selecting a skip-macroblock coding mode in a video encoder in Fig.10. But Srinivasan didn't disclose how to select a skip-macroblock coding mode from four coding modes in the first implement or from seven coding modes in the second implement, and what a skip-macroblock coding mode selected by the video encoder is based on. So it didn't disclose "selecting the coding mode for a macroblock type in the current image according to the number of skipped macroblocks".

In another aspect, Srinivasan suggests four coding modes (see [0119]) in the first implement, but each of them is different from the run_length coding in the present invention. For example, Srinivasan encoded each macroblock with a bit in normal mode, but didn't encode the number of the continuous skipped macroblocks. For the same image frame, normal mode would get a different bitstream from run_length coding in the present invention. Likewise, other three coding modes are also different from the run_length coding. Srinivasan suggests seven coding modes (see [0153]) in the second implement, each of them (see [0158] to [0198]) would get a different bitstream from the joint coding of the number of skipped macroblocks and the macroblock type in the present invention. In fact, according to coding modes by Srinivasan, the skipped macroblock or not-skipped macroblock is arranged in a bit plane, and then the bit plane is coded at the picture/frame layer (see [0035]), so it will take longer time to encode an image frame. However, the present invention encodes the macroblock type in an image frame by run_length coding or joint coding directly. So the encoding arrangement is different between Srinivasan and the present invention. Therefore, neither run_length coding nor joint coding of the number of skipped macroblocks and the macroblock type in the present invention was disclosed

by Srinivasan.

Based on the above two aspects, it can be seen that, Srinivasan et al (US 2003/0113026) fail to disclose "*selecting the coding mode for a macroblock type in the current image according to the number of skipped macroblocks, if it is a run_length coding, then proceeding to step 3; if it is a joint coding of the number of skipped macroblocks and the macroblock type, then proceeding to step 4*" . So Srinivasan fails to improve the encoding efficiency by selecting the coding mode for a macroblock type in the current image according to the number of skipped macroblocks.

Therefore, claim 1 is not anticipated by Srinivasan.

2. Similarly, claims 2, 7-8 and 10, which depend from claim 1, are not anticipated by Srinivasan for at least the same reasons discussed above.

Claim Rejection(s) Under 35 U.S.C. 103(a) for Claims 3-4 and 9

Hatano et al (US6792046) and Hagai et al (US 2004/0146105) were cited to supply the elements which are recited in claims 3-4 or 9 and are missing from Srinivasan. However, both Hatano and Hagai fail to disclose the features of claim 1 discussed above. Therefore, claim 1 is patentable over Srinivasan, Hatano and Hagai, taken alone or in combination. Claims 3-4 and 9 are also patentable over Srinivasan, Hatano and Hagai for at least the same reasons.

In addition, these dependent claims contain features that further distinguish over the cited references. Indeed, Hatano et al (US6792046) suggests a rate control unit 102 which selects a variable length coder 5a or fixed code 104 according to Tmax, but Tmax is the upper limit of

number of bits for the VOP to prevent the transmission buffer 103 from overflowing VBV buffer from underflowing (see Column 9), not to aim at an encoding efficiency. Therefore the encoding procedure by Hatano is different from the twice encoding procedure comparing the performance parameters and selecting an optimal coding mode in the present invention.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all pending claims 1-4 and 7-10 are now in condition for allowance. Allowance of this application is earnestly solicited. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,
J.C. PATENTS

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